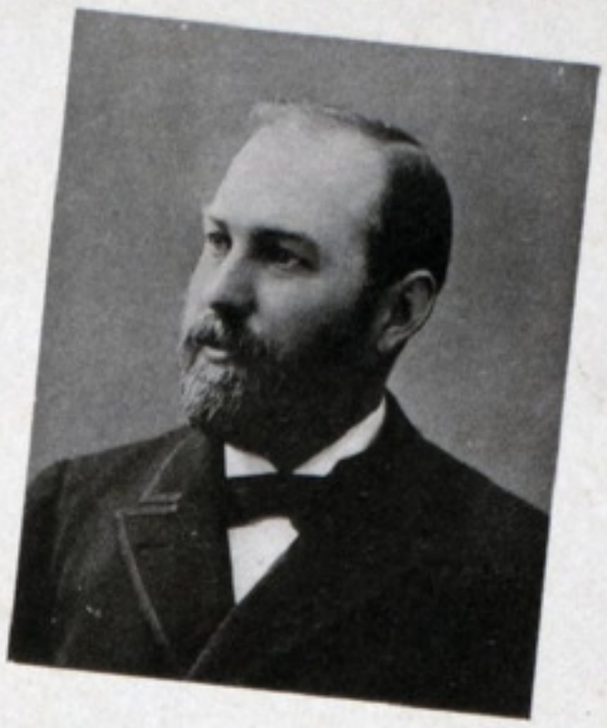
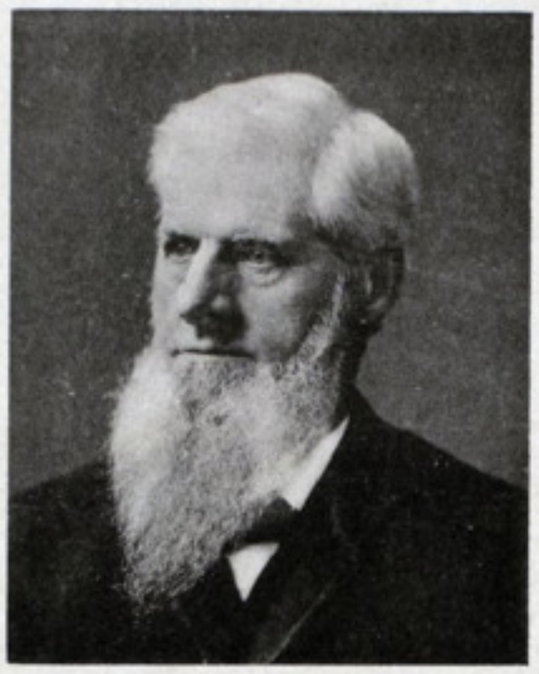
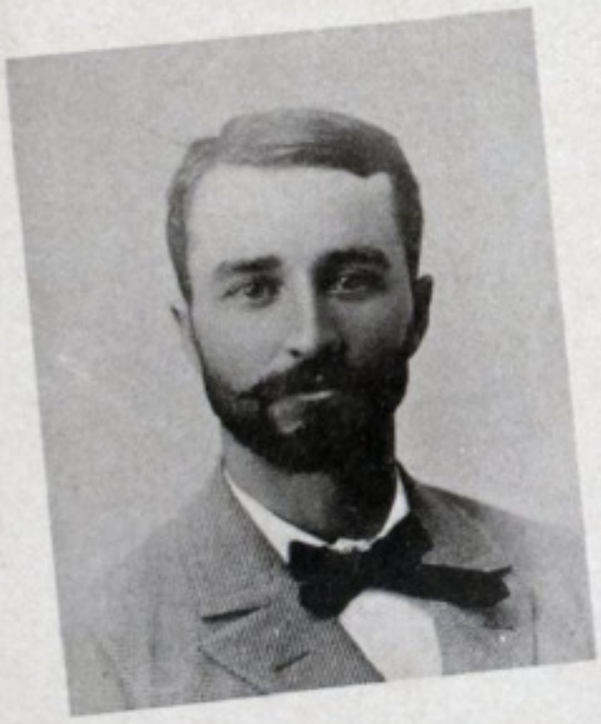
IRON AND STEEL SHIP BUILDERS,

(NORTHWESTERN LAKES, U. S. A.)







Supplement to THE MARINE RECORD, Cleveland, O.

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FRANK E. KIRBY, Detroit Dry Dock Co.

F. W. WHEELER, F. W. Wheeler & Co.

JOHN F. PANKHURST, Globe Iron Works Co.

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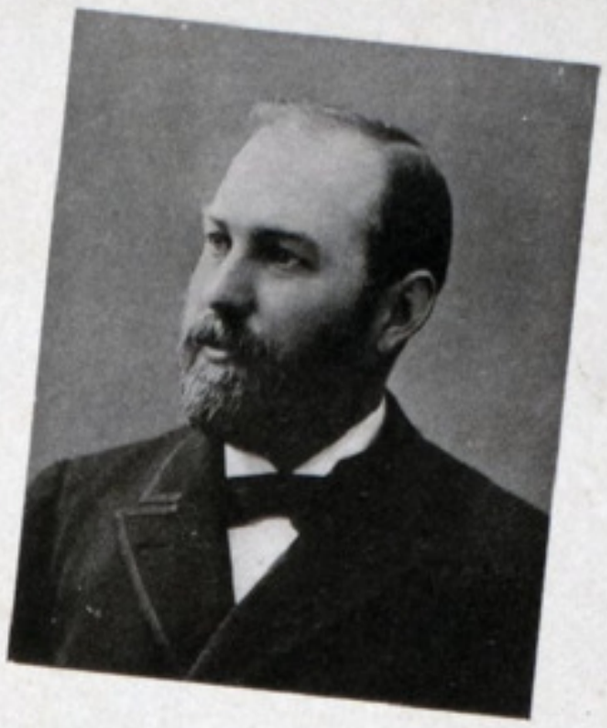

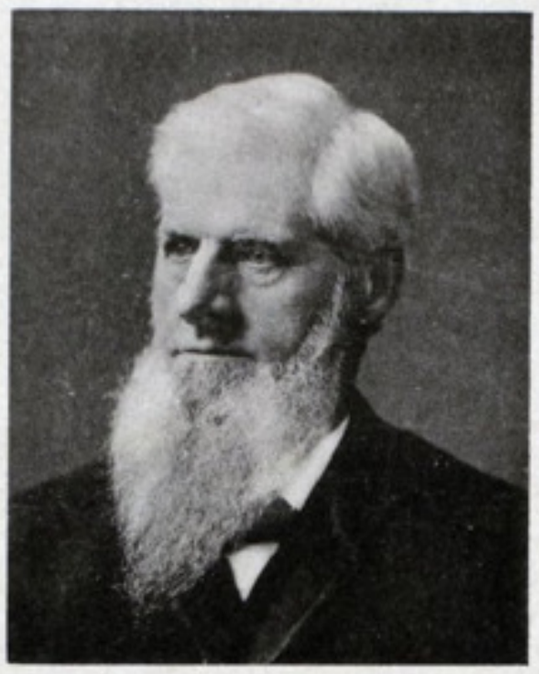

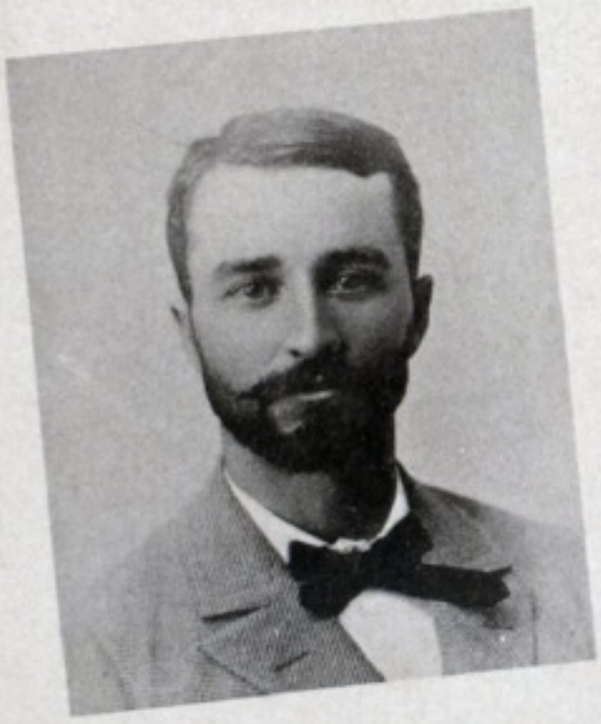

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ESTABLISHED 1878.

VOL. XV. CLEVELAND, OHIO, DECEMBER 1, 1892. NO. 49

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers and improve the character of the service rendered to the public.

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H. S. Hodge, - -	Detroit.		

ABROGATION OF THE WELLAND CANAL TOLLS ON YACHTS.

Col. Rae, an enthusiastic and prominent yachtsman of Chicago, has been in correspondence with the Canadian government on the subject of remitting the tolls on yachts bound for the World's Fair. He has received the following letter, which is self explanatory:

OTTAWA, Nov. 24.—Sir.—I have the honor to acknowledge the receipt of your letter of the 19th inst., and in reply to state that on the recommendation of the Minister of Railways and Canals an order in council was passed on the 2d inst. extending the courtesy of free passage through the Dominion canals to all pleasure yachts attending the Chicago Exhibition in 1893. This letter will be sufficient authority for the public announcement that the Canadian canals will be free for that purpose. I am, sir, your obedient servant,

T. TRUDEAU, Acting Secretary.

"This act saves an aggregate of at least $50,000 in tolls which would be paid by visiting yachts," said Col. Rae. "In the light of our maritime difficulties with Canada I think it is a most graceful thing to do."

THE NICARAGUA CANAL.

Writing of the ship canal which an American company proposes to cut through the Central American isthmus between the states of Nicaragua and Costa Rica, M. H. Moore, who is interested in the undertaking, speaks enthusiastically as follows: The first year the Nicaragua canal may not carry a greater tonnage than the Suez canal, but as it is 4,000 miles less distance from Calcutta and Bombay to Liverpool and London via. the Suez canal, the English ships will soon insist upon using the Nicaragua canal, especially as the danger of navigation in the Indian ocean and the Red sea is much greater than in the Pacific and Atlantic oceans. A similar distance is saved between the ports of England and China, a little less between England and Japan and Australia. The commerce between our Pacific and Atlantic ports will be enormous. Not ten per cent. of our railroad traffic is transcontinental; the wheat, timber and heavy products of the Pacific coast will not bear railroad transportation to the Atlantic coast. When loaded in sailing vessels, they are just as near the European ports at Cape Horn or Cape St. Roque as they are at New York. When the distance between San Francisco and New York, or between the two coasts, is shortened 10,000 miles, and freight can be carried by water in about the same time as by the average railway freight train overland, there can be no intelligent estimate of traffic made without an actual experiment. The tonnage may soon grow to 20,000,000, the present volume of the Detroit river, and the tolls, at Suez rates, to $50,000,000 per annum.

PRESENTATION OF A LIBRARY.

A splendid library consisting of 450 books has been presented to the U. S. cruiser New York by Edward C. Spofford a wealthy New Yorker. The collections contain the large quartos forming the "Narrative and Critical history of America." The rest of the volumes are of library size and include the works of Emerson, Hawthorne, Holmes, Longfellow, Lowell, Whittier, Bret Harte, Aldrich, Howells and those of many other American authors, together with Carlyle, Dickens, Thackery, Scott, Macauley, Tennyson and a few other British authors.

MORE NEW LAKE TONNAGE.

The rate of building at the shipyards of F. W. Wheeler & Co., West Bay City, is enough to make people dizzy and place even the rush for "whaleback" construction in the shade. It is now announced that the West Bay City shipyards will build on their own account a steel steamship 328 feet keel and 44 feet beam, with engines having cylinders 23, 37, and 63 inches in diameter by 44 inches stroke. Work is to be commenced at once in the shops but the keel cannot be laid until the steamer for Mitchell and others of Cleveland, is launched, which will occur about January 1. The firm also contemplates building two more wooden vessels, but the plans and specifications for them are not yet completed. This is anticipating the twenty foot channel sure enough.

WANT A NAVAL ACADEMY.

The Chicago Yacht Club are arranging the establishment of a western naval academy. The location in view is East End park on the Chicago lake front, near Fifty-first street. The project also provides facilities for receiving the foreign yachts that will visit Chicago during the World's Fair. It is proposed that two instructors be sent to Chicago by the United States government, and that once a year the cadets from Annapolis visit the institution, to obtain a little lake practice.

The graduates proper of the Chicago academy, unlike the Annapolis men are not intended primarily for service in the federal navy, but nevertheless will on leaving be equally competent if necessary to fill the office of lieutenant or midshipman on a man-of-war, or take an officer's berth on a merchantman. The plan, according to Commodore Rae of the yacht club means the opening for young men of another way into the marine profession than that afforded by crawling in through the hawse-pipes and working their way aft, which may remind some of our readers of the old adage, "the further aft the more the honor, the further forward the better man."

A NEW VANDERBILT YACHT.

The yacht Alva, owned by W. K. Vanderbilt, sunk and a total loss, through collision off Nantucket, is to be duplicated by the building of a still larger and if possible, a more handsome craft. An order has been placed with Laird Bros., of Birkenhead, England, by Mr. Vanderbilt, for a yacht of 2,000 tons and 300 feet long, of an average speed of 15 knots, and to receive the highest class at Lloyd's. Mr. St. Clare Byrne, the well-known yacht designer, has been commissioned to superintend the construction of the vessel, which is to be built from designs furnished by him.

To an American outside of the Anglomania influence, it is simply unaccountable to learn of such a contract being placed on the other side of the Atlantic when there are such excellent facilities offered in the shipyards of the United States. The English press may well ask, as it has done, on what are our laws prohibiting the importation of foreign built bottoms based on, and how is it that so many foreign-built vessels obtain American registry. If a good big slice of patriotism could be deposited under Mr. Vanderbilt's vest, and others like him, at this time, it would be a highly desirable feature for the shipbuilding industry of the country.

WHERE DOES AMERICAN PROTECTION COME IN?

The American line running from San Francisco to Australia has been driven from the ocean by British subsidized competition. By the enormous subsidy of $500,000 a year, the British government is aiming to destroy our American line between San Francisco and Japan and China. The American line from New York to Havana and Vera Cruz is maintained in the teeth of a heavy subsidy from the Spanish government. The American line from New York to Venezuela is sapped by subsidies granted to other ships by Spain, Germany and Holland. The American line between New York and Brazil is in danger from the same foreign sources.

All foreign lines heavily subsidized are thereby tempted to prolong their voyages to almost any West Indian or South American port and come into competition with our old transcontinental traffic, via. the Panama railway and canal.

A report recently presented to Congress by a member of the Committee on Merchant Marine declared that the price paid by the United States government to South American steamship lines would barely pay for the oils used on the engines.

Mail subsidies, naval reserve emoluments, government compensation for the right to engage merchant vessels as auxilliary cruisers, shipbuilding and mileage bounties, it matters not under what guise the aid is granted to foreign shipping, it still remains a fact that every maritime nation except the United States fosters its mercantile marine, and it would appear that such assistance is not only desirable but necessary to construct, equip and hold together under the flag a fleet of special high classed ships.

HEROISM REWARDED.

From a general order issued by B. F. Tracy, Secretary of the Navy, it is learned that Gunner's Mate Henry A. Eilers, serving on board the U. S. S. Philadelphia, having distinguished himself by extraordinary heroism, in the line of his profession, on the occasion of the sham attack on Fort McHenry, near Baltimore, September 17, 1892, in remaining at his post in the magazine of that vessel and stamping out the burning particles of a prematurely-exploded cartridge which were blown down the schute, has been promoted, upon the recommendation of his commanding officer and the approval of the Secretary of the Navy, to the position of Acting Gunner in the Navy, and is hereby awarded a medal of honor, under the provisions of Section 1407 of the Revised Statutes.

NEWS AROUND THE LAKES.

CLEVELAND, O.

The local life saving crew will go out of commission Dec. 15.

Capt. C. H. Bassett, of the Minnesota Line steamer Manola, has laid his vessel up at this port, after a successful season's business.

The sidewheel passenger steamers, Cities of Mackinac and Alpena, recently purchased by the Buffalo & Cleveland Line, will, if the commissioner of navigation finds no reason for refusing the change, be named the States of New York and Ohio.

Mr. John F. Pankhurst, general manager of the Globe Iron Works Co., has been confined to his house all the past week with a heavy cold. He is now on the improve.

An order has been placed with Cleveland Ship Building Co. for Scotch type boiler.

A survey on the Matoa, recently stranded at Ashtabula harbor, is being carried on by J. R. Oldham for the underwriters and John Smith, superintendent of the Globe shipyard, for the owners. The damage is very considerable and the survey will take several days.

Captain James Stone, shipshusband of the Bradley fleet, was absent from the city for a few days recently and it has since been announced that he was quietly married last Wednesday to Mrs. M. McCauley, of this city. The bride is a relative of Captain L. Greenley.

The steel steamer Mariposa brought down the last ore cargo from Two Harbors, leaving there on Thursday last, or one day later than shipments were made last season. Two Harbors handled upwards of a million tons of ore this season, and 20 per cent. more than was handled last year. Duluth and Iron Range docks shipped 1,055,498 tons and the two cargoes from the Mountain iron mine brings the total up to 1,060,000 tons.

Capt. Ed Kelley equipped the railroad transfer ferry steamer Ann Arbor No. 1 and on Monday last took her on the maiden trip across Lake Michigan, between Frankfort and Kewaunee, with twenty-four loaded cars. The vessel acted well and is found to be a serviceable, handy steamer for her special trade. She has two propeller wheels aft and one forward and promises to be an excellent ice crusher, as she will need to be to keep navgation open across the lake all winter.

Warner & Swasey, of this city, the designers and builders of the famous 36-inch Lick telescope and the 26-inch telescope for the new naval observatory at Washington, D. C., will make the 40-inch Yerkes telescope for the University of Chicago. The Lick telescope is now the largest in the world, but this new great instrument will, when completed, exceed it in power by 25 per cent. The tube of the great telescope will be 75 feet long, and will weigh about six tons, and the instrument complete not less than sixty tons. It is expected that the telescope will be completed in one year.

The large steel steamer Mariposa, built by the Globe Iron Works Co. to the order of the Minnesota Steamship Co., arrived at this port on Sunday night and will winter here. The Mariposa left the shipyard on her maiden trip on August 24, so that she has been in service just three months, during which time she has made eleven Lake Superior trips, steamed and carried well and met the complete requirements of her trade to the satisfaction of her owners. Capt. George Mallory and Chief Engineer Alonzo Arnold are well pleased with their new ship. The other officers were: Chief Mate, W. W. Shorkey; 2d Mate, Thomas Pollard, and 2d Enginner, Oscar Snyder.

The steel steamer Griffin, built last year by the Cleveland Ship Building Co. to the order of the Lake Superior Iron Co., has just completed a most successful season's work of twenty-eight trips, chiefly in the Lake Superior trade. She left Buffalo, April 12th, and ended her season at this port Nov. 26th. Capt. Orville W. Green speaks highly of the Griffin and says there is not a handier or a stauncher craft afloat, but, he didn't say that his steamer looks as well to-day as when she was launched and that she has been kept up in a manner that only an experienced master is capable of. Capt. Orville is somewhat modest, but the appearance of his fine new steamer without even a scratch on her hull, speaks loud enough for all in the business to understand.

The entire fleet of the Minnesota Steamship Co., comprising eight large steel freight steamers are now in winter quarters at this port. The value of these steamers, estimated for insurance purposes, aggregates $1,625,000, with a mean register tonnage of 2,000 tons each. The Matoa, after being stranded at Ashtabula with a full cargo of iron ore will incur a repair bill of about $30,000 and the other seven boats will no doubt pay out upwards of $1,500 each before leaving again in the spring of '93, so that the fact of a port having good accommodation for winter moorings benefits the tradesmen and others in no small degree.

A new departure is now being taken with the compasses of lake vessels in leaving them for storage in proper hands during the winter. Hitherto binnacles and compasses were usually carried ashore and stored in the ship chandlers or sail loft and shipped again in the spring in the same condition. I now find that masters of several prominent lines are making over their "Sea Clocks" to compass adjuster and optician Frank Morrison who will care for, overhaul, adjust and have the compasses in good working order for the spring. The motion of the vessel during the season frequently dulls the center point besides wearing out the agate or chrysolite and this feature though small in itself sometimes causes very serious results before a thorough adjustment can take place.

CHICAGO, ILL.

Special Correspondence to The Marine Record.

The officials at the City elevator by error in weighing, loaded 11,400 bushels of corn too much on board the steamer A. P. Wright on Friday, causing her to draw 16 feet 6 inches of water. When the mistake was discovered the O. S. Richardson Fueling Company's steam lighter Spring Heel Jack was brought into requisition and unloaded the 11,400 bushels of corn into two canal boats in four and a half hours, the best job of lighting ever done in Chicago river.

The steamers White and Friant and consorts Fanny Neil and Annie Sherwood which arrived here Saturday evening with lumber from Washburn, Lake Superior will go to Manitowoc to lay up, where they will receive considerable repairs during the winter by Burger & Burger, shipbuilders.

The steamer Thomas Maytham arrived here light Tuesday morning from South Chicago. She went to an elevator to load grain for Buffalo.

At Miller Brothers' shipyard the schooner George Sturges is in dry dock for about 40 feet of new keel, a new rudder stock and re-calking. The steamer Mecosta was in for a new fore-foot and a piece of new keel, the steamer Boscobel for some calking, the tugs Wm. L. Ewing and Robbie Dunham for some new frames and plank and re-ironing, the schooner Mary Collins for re-calking.

The M. E. B. A. No. 68 will hold their first meeting for this season Thursday evening at their hall, corner Huron and Wells streets. All members are requested to attend.

The Marinette Barge Line steamer, J. C. Perrett, Captain Thos. Cheon, and consorts arrived Monday afternoon on their last trip this season and will go into winter quarters here at once.

The steamer Josephine left here Monday night with corn for Ogdensburg.

The steamer Monohauset, Capt. Geo. W. Purdee, left here Tuesday afternoon with corn for Ogdensburg.

The steamer Harlem, Capt. Frank Williams, Syracuse, Capt. Dissett, Seneca, Capt. Driscoll and Wyoming. Capt. Drury will leave this week for Buffalo.

The steambarges George Dunbar and W. P. Thew have gone into winter quarters here.

J. B. Bates & Co., shipbuilders, have supplied the schooner James Mowatt with a new center-board, the schooner Granger with a new bowsprit, jibboom, dolphin-striker, cathead and sprit sail yard. The schooner Mary D. Ayer is receiving some new deck and hatch-combings, the schooner Halsted is having her spars reduced and being converted into a barge. They will supply the new schooner, City of Chicago with new fore and mainmasts and a new windlass.

The fine steel steamer Harlem, captain, Frank Williams, which leaves here this week for Buffalo, will, on her arrival there, have made 26 round trips this season.

Many captains trading between lower lake ports and Chicago say it is very necessary that there should be a light on the North Manitou island, Lake Michigan, as the north island shuts off the light on the south island when they are bound up, and there is great danger of running on the north island in consequence.

Captain A. W. Rossman, aged seventy-five years, died at his home, 869 Sawyer avenue, Chicago, Saturday morning last. His last command was the Goodrich Transportation Co.'s steamer Atlanta, which he brought out in 1891 and commanded until about five weeks before his decease, prior to which he sailed the same company's steamer Menominee for 15 years. He was for many years in the employ of the old Northern Transportation Co.

The survey on the damage done the schooner Ida Keith, of this port, by striking on Fox island, shows that repairs will cost $5,800. She is now at Port Huron.

The steamer Chicora, of the Graham & Morton Transportation Co., went into winter quarters at St. Joseph Saturday, the company's project of running her between St. Joseph and Chicago having been abandoned in consequence of the bar which has formed at the entrance to the harbor at St. Joseph.

The steamer Susan E. Peck, light, arrived from Milwaukee Tuesday morning and went to an elevator to load corn for Buffalo.

The New York, Ontario and Western road, running between New York City and Oswego, is now figuring on putting on a line of steamers between Chicago and Oswego next season. Ample accommodations for the handling of grain will be established at Oswego. The railroad already has commodious warehouses on the water front for package freight. The new line will enter directly into competition for New York business with the transportation companies owned or controlled by trunk lines terminating at Buffalo. One serious handicap on the new project is the 20 cents per ton tolls of Welland canal, but it is hoped that out of the imbroglio between the Canadian and the American governments these tolls will be lowered by the opening of navigation next spring.

On her second trip across the lake between Kewaunee and Frankfort, the car-ferry Ann Arbor No. 1 went ashore two miles north of Ahnapee in the thick weather Sunday night. She rests easy on a sandy bottom, and has yet sustained no serious damage. Tugs have been dispatched to her assistance from Sturgeon bay, and the wreckers Manistique and Favorite from Cheboygan. The Ann Arbor reached Kewaunee last Saturday from the shipyards at Toledo, where she was built at an expense of $225,000. It is the intention to run her and another ferry now almost completed across Lake Michigan throughout the winter, carrying loaded freight cars in the new Lackawanna line from the seaboard to the northwest.

Commander Nicol Ludlow, U. S. N., light-house inspector of this district, notifies mariners that, owing to the continued heavy gales and freezing weather, little dependence can be placed on the buoys in Green Bay and Lake Michigan at and north of Racine. It will probably be necessary to take up all the buoys in the district at an early date, and vessel-masters are cautioned accordingly.

The Excelsior Marine Benevolent Association, comprising nearly all the vessel captains residing in this port, has fitted up a hall at No. 2 Market street, which will be the headquarters of shipmasters during the winter. The first meeting will be held on the evening of December 5th. During the winter several lectures on marine law, wrecking and kindred subjects will be given.

Harvey C. Beeson is in Chicago this week on business connected with his Inland Marine Guide. WILLIAMS.

AT THE HEAD OF LAKE NAVIGATION.

Special Correspondence to The Marine Record.

DULUTH, MINN.—The close of the season of navigation for 1892 is upon us. The receipts of coal for the year will be not far from 1,950,000 tons, an increase of about 200,000 tons over last year, which has had the reputation of carrying the broom over any preceding season. These coal receipts are about equally divided between the Duluth and Superior sides of the bay, and bid fair to be left far in the rear by the business of 1893, which already looms up in the distance. Coal can now be carried from Duluth to Eastern Washington at a rate, thanks to the Great Northern road, that will allow the Pennsylvania and Ohio companies doing business here to supply that vast territory at a profit, recent tariffs of the company having quoted $12 a car from Duluth to Spokane. This will widen materially the field that can be supplied from here, and will consequently enlarge demand. One new coal company has entered the field this fall, and two more are figuring on the possibility of getting dock room so that they may begin work next year. The company that has already started will handle 250,000 tons in 1893 and will double that amount in a year or two thereafter, and while the capacity of the two concerns that are now looking for room cannot yet be given, it is probable that they are of magnitude. One of these two companies will probably locate at West Duluth and the other at West Superior, close to the works of the American Steel Barge company.

At the yards of the Barge company work is now going forward on four vessels, and it is not likely that there will be many more under way for some time at least. The passenger ship is all in frame and well plated and shows a fine run, she will be a flyer and no mistake. Her wheel is to be 14½ feet in diameter, and Captain McDougall says she ought to have twice the 3,000 horse power that is to be put into her. It can be given out as a piece of fresh news, though violating no confidence, that the Barge company will put in a second dry dock, same size as the dock now in use, this winter. It will be located close to the present dock, the reasons for its construction are that there is need of more dockage, and that, as there is need also of the soil that will come out of the dock to fill a new coal dock that will be built close by, the construction will cost very little. Still two such dry docks at one place would seem a little too

much for the present, to an outsider. The 126, 128, which is the passenger ship, 129 and 130 are on the stocks, and the 128 will be launched on Saturday next. It will be made a gala day, and a number of the company's officials from New York will be present. It will also show how a 360 foot boat can be launched, sideways, in a 320 foot slip, but as the boat has a very long overhang forward this is expected to be accomplished without difficulty. The 126 will be launched about the same time and these will be the last for the year 1892.

There is a new shipping development under way at the head of the lakes that will prove a good deal of a surprise when it comes to a focus, as it will do in a very short time now. Indeed there are several projects of importance coming up here soon that will influence lake tonnage matters not a little.

The idea of a bridge between Rices' and Connors' points, chiefly for the benefit of the street railways of the two cities at the head of the lake, is materializing, despite the adverse report of the late harbor engineer, Captain Fisk. It will be remembered that he reported against the project, and that his report was promptly turned down by Secretary Elkins and favorable mention given. It seems that one reason that connection between the cities has not already been made by quick street car and ferry service is because of the opposition of the company owning West Superior, which has evidently some reason for fearing unobstructed traffic between two places so nearly united. Last week, however, there was a conference between the parties most in interest and the ferry line will be made more desirable and the street car connections be improved pending the building of the bridge that is now expected.

The saw mills of the Duluth district have shut down for the year after a very successful season's work. The total cut of the year has been 365,000,000 feet, as against a cut of 275,000,000 feet the previous season. There are being cut in the woods of the district this winter about 425,000,000 feet of logs, indicating an increase of from 15 to 20 per cent. in the cut of next year. Of this year's cut some 50,000,000 feet were sent to the east by water, and there are on Duluth docks at present for eastern shipment about 25,000,000 feet more, which will go forward in the spring and will make the shipments of the year about 100,000,000 feet. The 127 and 126, just launched at the yards of the Steel Barge Co., are said to be equipped for the lumber carrying trade, and it is probable that they will be fit for the trade after some little changes have been made in them. Capt. Mc.Dougall is credited with the laudable intention of cutting the lumber carrying rate from Duluth and Tonawanda and Chicago to $2 a thousand, but it isn't at all probable that he will carry that or any other commodity for less than he can get; and if the lumber rate is $2.50 or $3.00, he will have that much for the whaleback rate.

Duluth flour mills grind as heavy grists as ever, but the receipts from interior points begin to fall off perceptibly; the Imperial hopes to come well up toward the record of last year, when the Hopkins left here December 4th with a full flour cargo. This mill ground last week at the daily rate of 6,250 barrels, a better showing than any mill in the world has ever made. There are in store here now 7,900,000 bushels wheat and about 180,000 bushels coarse grain, an increase in wheat of 900,000 bushels for the week. Wheat receipts still keep well up and there promises to be 10,000,000 bushels in store before the new year, with light receipts thereafter.

Several vessels will tie up here during the winter. Among the number will be one or two of the Northern liners, a Crescent liner or two, several whalebacks and a few wheat carriers, which are chartered for spring delivery and will load at once for winter storage.

Talking of machinery, Duluth is proud of the fact that the engines of the Jas. B. Colgate, which has proved herself the fastest of all the freighters, towing a consort, were built in this city, by the Marinette Iron Works Co. The engine is a triple, 1,250 indicated horsepower, and the Colgate has so far passed everything she has seen. The steamer and her consort carry about 185,000 bushels wheat each cargo.

Coal receipts of the year are not yet over, and above half a dozen vessels are bound to the head of the lakes with the dusty diamonds. These will make the total receipts of the season at both Duluth and Superior, foot up closely to 1,800,000 tons, though a local evening paper in a late issue made out by figures that the receipts of the year would be something more than 2,600,000 tons. Just how it got this total, nobody connected with the coal trade seems to understand, but it is undoubtedly some thirty per cent. too high.

Among the vessels that will winter at Duluth and Superior, are the following whalebacks: J. B. Colgate, Thos. Wilson, Colgate Hoyt, A. D. Thomson, 101, 103, 109, 115, 118, and the newly launched 126 and passenger vessel. There will also be the Jay Gould, of the Lake Michigan Line, the Stevens (probably) of the Crescent Line, and the schooner Alta, which is now stripped, and possibly one or two others. Three of the Northern liners left port to-day, in company, for their last trip down, and what is here will get out as soon as possible. Nothing has been heard of the steamer D. W. Rust and consort, which should have been on hand here nearly a week ago, and nobody seems to have any idea where they are. No doubt before this is printed it will be known just where they are.

It has been hoped to get down another cargo of Minnesota iron ore, and have it included in the year's shipments, so that it is not possible to figure to a pound the shipments of ore this season, but as this cargo will foot up to 1,900 tons it can be put into the totals. There have been sent over the docks this year 1,157,000 gross tons of ore, of which the largest amount was in July, 243,271, as against 206,820 during July of the preceding year. The ore year was twenty-two days longer than the season of 1891, it beginning on April 27, and closing on November 29, a season of 218 days. The total clearances of the year were 624, of which 343 were Chandler, 261 Minnesota, 8 Zenith and 2 Pioneer. The average cargoes were, it will be seen, of 1854 tons, which is a good deal less than they would have been, but for the low water at the Sault, especially during the early part of the season. The average time of loading and trimming the vessels was a trifle under three hours, but in many cases there were excellent records made. The Maruba loaded 1,200 tons in thirty minutes, and took out a full load of 2,343 tons in two hours and fifteen minutes from the time of arrival. The biggest cargo ever through the Sault canal, and the biggest from Two Harbors, was that of the Maritana, 3,220 tons. The ore shipments of the Vermilion range since it began sending out ore in 1884, are as follows:

1884	62,122	1889	819,639
1885	227,075	1890	870,868
1886	307,948	1891	885,521
1887	394,910	1892	1,157,000
1888	452,110		

These, which are entirely the water shipments of the range, and do not include in any way the rail business of the Duluth & Iron Range road, make total s hipments in the nine years of 5,175,683 gross tons of ore. Were the rail shipments included the total would be some 350,000 tons more.

BUFFALO, N. Y.

Special Correspondence to The Marine Record.

The steamer Neosho, which arrived here this week, had a rough passage down. She shipped a huge sea on Lake Michigan, and on reaching Lake Erie her captain says there were 100 tons of ice on her deck. On discharging here it was found the cargo of wheat was badly damaged, about 6,300 bushels being wet.

The new fishing tug Puritan has left for Dunkirk.

The captain of the steamer W. H. Barnum, which was consigned to the Richmond elevator, mistook the Frontier for his house when he came in one night last week and before he discovered his mistake lost his turn at the Richmond. Rather than use a tug, the Barnum went way out into the lake to wind around.

The Richmond elevator has closed its short season, being full of grain for winter storage.

Vessel men here do not credit the report that the accident to the whaleback steamer Wilson, at the Soo, was caused by dynamite. They think the steamer merely had the disagreeable but common experience of butting a rock.

The Wilson took the last Duluth coal cargo Monday, loading 2,000 tons at $1 per ton, the highest rate of the year by 50 cents.

Sloan & Cowles' new pleasure steamer Eldorado was given a successful trial trip last Sunday.

The tug J. V. O'Brien, recently purchased by Hand & Johnson from Oscoda parties, arrived here Tuesday and went into winter quarters. This tug will be stationed at Conneaut next spring. P.

TORONTO, ONT.

Special Correspondence to The Marine Record.

The propeller Shickluna with schooner J. G. Worts in tow, arrived on Sunday with coal from Charlotte, and after discharging their cargoes will go into winter quarters.

The propeller Ocean was in dock at Pt. Dalhousie, to have her bottom calked, and arrived here on Sunday to lay up.

The schooner Rutherford has been stripped and gone into winter quarters.

A large fleet of vessels arrived on Sunday and Monday with coal from Charlotte and Oswego, nearly all will go into winter quarters this week.

The propeller St. Magnus arrived on Saturday from Montreal, with a general cargo, after discharging part of it here she proceeded to Hamilton, from there will go to Pt. Dalhousie. The St. Magnus and Lake Michigan owned by Mackays Sons, of Hamilton, will be placed on Muir's dry dock at Pt. Dalhousie, where they will have steel arches put in them and receive a general overhauling. Capt. Al Malcolmson will look after the work for the owners.

The propeller Alma Munro has gone into winter quarters in Cantin's dry dock at Montreal, where she will have a new boiler placed in her, and have a thorough rebuild during the coming winter.

The propeller Cuba has been laid up at Picton, where she will be hauled out on Hepburn's marine railway, and extensive repairs will be made.

On Saturday some shares of the steamer Seguin were sold by auction to Mr. J. Pain, for the sum of $1,000.

The owners of six of the principal Toronto yachts intend to cruise to Chicago next summer, and possibly enter any suitable races that may take place. The yachts will be the Oriole, Zelma, Ureda, Vedette, Aileen and Condor. The owners of the Oriole have already formed plans for an extended stay during the summer months in the waters of Lake Michigan. SPARTA.

PORT HURON, MICH.

Special Correspondence to The Marine Record.

The steam barge Weston is in Dunford & Alverson's lower dry dock for repairs.

The Monarch was the last Beatley Line boat to leave Sarnia for Lake Superior this season.

The Archie Stewart is in Dunford & Alverson's upper dock for repairs.

The Jenks Ship Building Co. have two steamers the same as the Desmond building at their yard. They are both well along.

Fitzgerald Bros., of the Dry Dock Iron Works, will have fine quarters in their new shops down the river. Their shop is between the lower dry dock and the Wolvernon dry dock and is very handy to the shipping interest.

The Idlewild made her last trip December 1st.

A curious accident is reported by Capt. Lynn, of the steam barge Canisteo. The Canisteo had the Stewart in tow. Coming up Lake Erie in Tuesday's gale, two large boulders that had been picked up by the Stewart when ashore near Cheboygan about four weeks ago dropped out. The Stewart at once began to sink, and the Canisteo had hard work getting her into Fairport. When she reached there, there was seven feet of water in her hold. ISIS.

OWEN SOUND, ONT.

Special Correspondence to The Marine Record.

The government steel cruiser "Petrel" was launched at the Polson Iron Works Saturday. A private car arrived with the 1:30 p. m. train, containing Mr. Polson and the *Globe*, *Mail*, and *Empire* reporters, and others from Toronto. At precisely 2.30 p. m. the word "let go" was heard and a moment later the "Petrel" slid gracefully into the water. Miss Masson, daughter of Mr. Jas, Masson M. P. christened her and broke the conventional bottle of wine. This makes the third cruiser built by the Polson Company within a year. The "Constance" and "Curlew" for service on the Bay of Fundy, and Gulf of St. Lawrence, and the "Petrel" to do duty on Georgian Bay. She will be all ready for next season.

All the Northern Transit steamers are now safely moored for the winter, and the "City of Midland" is down on her last trip.

The C. P. R. steamer "Athabasca" arrived Tuesday from Ft. William with a heavy cargo of flour, etc., and will now go into winter quarters here. The "Manitoba" left Sunday on her last trip and the "Alberta" leaves Wednesday.

While unloading lumber here Friday the schooner "Artic" sprung a leak and had to go in the dry dock for repairs.

The tug Edward Blake is having her engines compounded here.

The fish tug "Heather Bell" leaves Thursday for the fishing grounds.

Tug Adam Anislie is now laying up for the season. T. B.

THE WORLD'S LARGEST CANALS.

The largest canal on the globe is the Imperinal Canal, of China, which is over 1,000 miles in length. The longest canal in Europe is the canal of Languedoc, which connects the Atlantic with the Mediterranean, and was completed in 1881. It is 148 miles long. The largest ship canal in Europe is the great North Holland Canal, completed in 1825, which is very wide and deep, though it is only 51 miles in length. The Suez Canal is 88 miles, of which but 66 miles are actual canal. In the United States, however, there are a number of canals of notable length. The Wabash and Erie Canal, Evansville to the Ohio line, is 374 miles long. The Erie Canal is 350½ miles; the Ohio Canal, Cleveland to Portsmouth, is 332; the Miami and Erie, Cincinnati to Toledo, 291 miles.

INDUSTRIES OF CLEVELAND, O.

The new phamphlet concerning the industries and general advantages of the city of Cleveland, issued by the Board of Trade, will soon be ready for distribution. It is authority for the statement that Cleveland capital controls 80 per cent of the vessel property employed in the ore-carrying trade. What has been done in cheapening transportation costs on ore is made plain by the statement that in 1867 the average freight per ton of ore from Escanaba to Cleveland was $4.75; in 1870, $2.50; in 1891, 84 cents: and charters were made in the season as low as 55 cents. On July 1, 1892, there were owned in Cleveland forty steel vessels with a registered net tonnage of 69,317, and an aggregate insurance valuation of $7,119,000. The actual value of the 289 vessels, aggregating 223,849 gross tons capacity, owned in Cleveland July 1, was $17,000,000.

There is sixteen miles of river frontage here, five miles of which is built up in docks. On river and harbor improvements the government has spent in all $1,563,999.86, of which amount $1,167,118.25 went for the construction of and repairs on the breakwater.

The capacity of Cleveland's blast furnaces and iron and steel works makes possible the production each year of 275,000 net tons of pig iron, 545,000 tons of Bessemer and open hearth steel blooms, billets and slabs, 288,000 tons of wire rods, 108,500 tons of merchant bars and shapes, and 210,000 tons of plates, axles, and iron and steel forgings. The one hundred and twenty-five establishments in Cleveland working in iron and steel turned out in 1890 products valued at $47,364,766, and employed 17,465 hands.

Cleveland's jobbing business is put at $48,000,000 a year, dry goods leading with $9,000,000: groceries, $8,000,000; produce, $4,750,000; hardware, $4,000,000: merchant iron and steel out of store, $3,250,000. In its bank showing the report gives emphasis to Cleveland's financial strength. Fifty banks have a combined capital of $15,382,102, with a surplus of $5,760,283, and deposits, on April 1, of $63,381,381.

From 261,353, according to the census of 1890, Cleveland's population has swelled to 309,243 in 1892, according to an estimate, the number of names in the directory being multiplied by three.

AN APPEAL FOR AID.

An appeal from the Surgeon General of the United States marine hospitals has been received by the Woman's National Relief Association for clothing for sailors discharged from the hospitals cured, but still too feeble to work. Sailors on the inland seas usually enter the hospitals with their clothing in such a dilapidated condition that it has to be burned. They cannot be repaired. At the best, they are insufficiently clothed for cold weather, and seldom, or never, fit to leave the hospitals in the early stages of convalescence, although the majority think of nothing else but getting out at the earliest time permissible.

They enter the hospitals disabled by wounds of all kinds, broken bones, bruises, and frost bites. The prevalent diseases are pneumonia and pleurisy. For these diseases warm clothing is essentially necessary.

Especially is this the case with patients at Solomon's Island, in the Chesapeake Bay, where nearly all those received are oyster men. To those who read newspapers it is unnecessary to tell of the suffering to which these men are exposed.

They are of all nationalities, many of them unable to speak English, therefore more easily imposed upon. They are poorly paid, often cheated of their entire wages, and the suffering on these oyster dredging boats cannot be told in words.

In view of all this suffering the Woman's National Relief Association make an appeal to the charitable and kind-hearted people of the United States for assistance. They ask for money to buy heavy underclothing and stockings. All donations and gifts may be sent to Mrs. Amelia C. Waite, acting president of the association, at 1616 Rhode Island avenue, Washington, D. C.

THE IMPORTANCE OF DULUTH-SUPERIOR FLOATING COMMERCE.

The harbor-master of Duluth, Minn., is an epitome of facts and figures relating to the floating commerce and transportation of Lake Superior, especially that portion which reaches the head of navigation.

Touching upon the harbor, Capt. Miller stated that there is more business done through the canal that is cut through Minnesota Point than through the Suez Canal, through which the commerce of millions of people passes. On a conservative estimate of 2,000 tons for each vessel that has passed in and out of the local ship canal, it has already taken vessel tonnage amounting to nearly 8,000,000 tons to handle the business at the head of Lake Superior this year. The season of navigation for 1891 closed December 5, and remained closed for only 138 days, opening again April 22, 1892. The Duluth canal passages this year will exceed those of last year by over 1,000 vessels. Last year's passages numbered 2,895. In 1890 they were 2,534, and in 1885 but 906 vessels passed through the canal. Some idea of the growing importance of the commerce of Duluth and Superior is gained by a glance at these figures. This year there has been 3,900 passages, representing 8,000,000 tons, and the tonnage of the Soo canal for the year is estimated at about 11,000,000 tons. The total tonnage of Chicago last year was 10,150,052 tons. The two ports of Duluth and Superior will be right on the heels of that record this year, and it need be no surprise if the tonnage of these two ports in 1893 equals or exceeds that of Chicago, for the opening of the Mesaba range and the shipment of ore from the Allouez docks will increase the tonnage very much. Two vessels only have taken cargoes from these new docks this fall, but they add 4,500 to the actual freight shipped out.

VESSELS CLASSED.

The Record of American and Foreign Shipping, issued by the American Shipmasters' Association, New York, have classed the following vessels since our last issue: American three-masted schooners John C. Smith, Bertram N. White and William C. Wickham; screw steamer Wilson and Russian bark Aimo.

MARINE PATENTS.

The following is a list of marine patents recently entered at Washington, and prepared for THE MARINE RECORD, by F. B. Keefer:

Boiler, R. Davies, Birkenhead, England.

Boiler furnace, C. Schroll, Chicago, Ills.

Flash light apparatus, J. B. Lawson, Philadelphia, Pa.

Pneumatic boat, W. H. Gamble and D. H. Allen, Miamisburg, Ohio.

Boat propelling apparatus, W. S. Salisbury, Chicago, Ills.

Beam compass, J. E. Betts, Wilmington Ohio.

Feathered paddle wheel, J. Polkowski, New York, N. Y.

TO CROSS THE ATLANTIC IN FIVE DAYS.

The plans for a new steamship have been accepted by the Hamburg-American Packet Co. The new steamship will probably be one of the largest and fastest ocean liners afloat. The builders guarantee that she will maintain an average speed of twenty-two knots per hour throughout an ocean voyage from port to port. In this event she will make the transatlantic trip in five days. She is now building in the Vulcan shipbuilding yard, Stettin, Germany. She will be 600 feet long, and provided with the latest improved triple expansion engines and twin screws. It will be two years before she will be launched.

A PIONEER LAKE SEAMAN LAID TO REST.

Captain A. W. Rossman, who had sailed on lake steamers for more than half a century, died at his home in Chicago last week, at the age of seventy-five. In the days of the old Northern Transportation Co., Capt. Rossman was its fleet commodore and sailed on boats of that line for thirty years. When the company went out of business he took a place with the Goodrich line out of Chicago. Captain Rossman gave up active service only five weeks ago. He leaves a widow and one child.

The funeral services were held at his late residence, No. 869 Sawyer avenue, on Monday afternoon. A large number of beautiful floral offerings had been sent by the dead man's former business associates, and many old lake sailors were present to honor his memory. Dr. W. H. Thomas delivered an eloquent funeral oration, in which he touchingly referred to Capt. Rossman's quiet, useful life. The hymn "Lead, Kindly Light," was sung, and the quartette rendered "Rocked in the Cradle of the Deep," after which a prayer was offered by Dr. Thomas, and the remains were conveyed to Rose Hill cemetery, where they were interred in the family lot with appropriate ceremonies. The pall bearers were: W. S. Canright, John Singleton, Andrew Pearson, S. N. Randolph, Cuthbert McArthur and Dr. George R. Barrett.

THE LIFE SAVING SERVICE.

General Superintendent S. I. Kimball of the life saving service has issued a circular to officers and employes establishing regulations under the act of Congress providing for an increase in the compensation of keepers and surfmen.

The circular directs each keeper to furnish, sixty days prior to the opening of each season, a list of the persons he intends to engage as members of his crew. The district superintendent is to examine the lists and if satisfied that the selections have been made with sole regard to fitness for the service, return them to the keeper approved. If it is found that a surfman at any time subsequent to enlistment fails after a reasonable trial the fact is to be reported to the district superintendent. Evasion or violation of these regulations are to be considered sufficient cause for removal and officers are charged with reporting violations that may come under their observation.

Under the act the compensatian of keepers is fixed at $900 per year, except that of keepers of refuge stations, which is $600 a year, and that of surfmen at $65 a month.

LAUNCH OF THE DOMINION GOVERNMENT FISHERY PROTECTION STEAMER PETREL.

The third government steamer built by the Polson Iron works, at Owen Sound, Ont., was successfully launched on Saturday last, in the presence of a large number of spectators. The vessel is built on the same lines as the cruisers Constance and Curlew, but the bottom has not been sheathed with heavy planking like her sister ships. The Petrel will protect the Georgian bay fisheries. Her dimensions are 125 feet long, 22 feet beam and 10 feet 3 inches depth of hold. It is estimated that she will draw 8 feet of water aft when fully equipped.

The Petrel is schooner rigged and carries two jib headed trysails. Her engines are fore and aft compound with cylinders 18 and 38 by 22 inch stroke; one Scotch type boiler 10 feet 9 inches in diameter and 10 feet 6 inches long, for 120 pounds steam; the propeller wheel is 7 feet 6 inches diameter with 12 feet pitch. The ram stem of the Petrel, like the other two fishery cruisers, is built of extra heavy sheathing, and their armament has been fitted according to the special work required of the vessels as fishery protection cruisers, though they are not naval vessels by any means. On the turtle back forward is placed the steam capstan for working anchors, etc. Her engine is on the main deck. The deckhouse is built of steel and contains wheel-house, captain's room, galley, etc. The officers' quarters are aft of the machinery and the crew space is forward. The hull is constructed entirely of a high grade of steel, and the entire vessel built to the highest requirements in every particular. Her builders, the Polson Iron Works Co., Ld., are to be credited with turning out a handsome staunch vessel, as also are her two sister ships, the Constance and Curlew.

DRAINING A LAKE.

The vast pumping plant in use for six months past at Lake Angeline has at last succeeded in draining the lake, althongh it was forty-five feet deep, three-quarters of a mile in length and one-third of a mile wide. The expense of this stupendous undertaking was borne jointly by the Cleveland Cliffs Iron Co., the Pittsburg & Lake Angeline Iron Co., and the Lake Superior Iron Co., who own the adjacent lands. Prospectors announce an almost inexhaustible supply of rich ore under the bed of the lake, and a shaft will be sunk at once, at the center of what was a splendid miniature lake, but is now only a big hole in the ground, under which is millions of tons of high-grade iron ore.

UNIVERSAL STEAM PACKING.

The attention of manufacturers, engineers and all builders and users of drying machines is called to the merits of the Buxton Universal ring packing. It is as nearly anti-friction as possible, and in this respect cannot be too highly estimated. The manufacturer, George B. Buxton, Somerville, Mass., claims that it does not wear the machinery, and this fact is proven by the high polish imparted to portions in contact, as it gives a surface like glass. Being waterproof, this packing requires but little setting up on glands—in fact, the thumb and forefinger will answer in place of a wrench, which has a tendency to increase friction by setting up too hard. The materials of which this packing is composed are entirely free from grit, and are lubricants in themselves. The anti-friction qualities are due principally to the mineral ingredients with which they are charged, which, added to the excellent quality of the stock and the thorough manner in which they are made, being subjected to a chemical process of 370 units of heat, make it the most desirable packing ever used, and it is unequaled in durability by any in the market. The following are some of the advantages possessed by this packing: 1st, anti-frictional qualities; 2d, saving the wear of parts in contact; 3d, great durability; 4th, saving of time; 5th, freedom from corrosion when the machinery is not in use; 6th, does not deteriorate by keeping any length of time, but remains soft and flexible; 7th, will withstand a great amount of heat, as the lubricating material with which it is charged cannot be destroyed by heat intense enough to melt iron; 8th, its maker challenges the market to find a packing to fill the place on steam-drying machines, it being in use in some of the largest cotton manufactories in this country.

THE ATLANTIC FERRY TRADE.

An address was recently delivered before the Liverpool Engineering Society, by Mr. Arthur J. Maginnis on the development of the machinery of Atlantic liners. In the course of his remarks Mr. Maginnis pointed out that great interest was centered in the new vessels under construction which were to ply across the Atlantic Ferry. He referred to the gradual development of the machinery of the most important steamers until the present time. He contrasted the first steamer—the Savannah, in 1819—the speed of which was six knots per hour with an expenditure of 7½ cwts. of coal per hour, with the present vessels of the Altantic Ferry, and drew attention to the great immunity from breakdown of machinery which now characterised the vessels sailing across the Atlantic. Take the year just passed —Oct., 1891, to Oct., 1892—he said that although there were no less than over 1900 sailings from each side of the Atlantic, or nearly 4,000 departures from port, in all averging nearly 74 per week, he had only been able to trace seven breakdowns of machinery which caused serious delay, and only three total disablements. Such a gratifying condition of things, even in this age of unique achievements, was worthy of note, and, although redounding to the credit of both builders and owners in proving that the best designs, materials, and workmanship had been utilized, it would be idle to deny that, were it not for the care and attention taken and given by the engineers in charge at sea, the men who bore the heat and brunt of the day from the chief downwards, the result would not be so satisfactory nor the advances which had been made would not have been practicable.

It only remains to question what of the future of this great "ferry"? Looking back to 1878, when the greatest horse-power on any vessel sailing across the Atlantic was 6,000 and that at the present time 30,000 was within measurable distance, it might be taken that before many years the passage would be four and a half days, as 26 knots was not beyond the scope of advancing improvements; and as the future liners must be mail and passenger carriers only, there was no doubt commercial success would follow as more voyages were made. From what other builders had proposed, he gathered that Belfast, the Clyde, and Tyne would not for some time to come have to yield to other shipbuilding centers.

GETTING READY FOR THE FAIR.

Chicago yachtsmen are making great preparations for the entertainment of visiting yachtsmen to the World's Fair, and it is expected that the New York Yacht Club will send 200 boats to Chicago, and if they can be pontooned through the canals they will add to this number 80 more. A company is now being organed in Canada whose purpose it is to pontoon yachts drawing as much as 15 feet of water and measuring over all 184 feet. Correspondence has also been had with the yachtsmen of Great Britain, Germany, Denmark and Greece. A new club house costing $50,000 will be built at Chicago for the use of yacht and row-boat clubs. At Chicago avenue there is a basin 1,500 feet long and 333 feet wide. Here it is proposed to build a temporary marquee for signaling purposes—a place where boats may run in. Three of the Lincoln Park commissioners have signed an order for the building of a breakwater from Diversey street to Fullerton avenue to cost $40,000. It will protect 1,000 acres of land and constitute a refuge if need be, for boats starting from Evanston. At Evanston seven acres have been secured and a handsome club house built of tile is contemplated. Thus boats of any size may start from Evanston and run to the fair grounds with assurances of harbors of refuge available to them at all points on the journey.

An expenditure of $600,000 is contemplated. There will be a sufficient number of members, it is said, paying the annual dues of $100, to make up $300,000 of this, and plans are made for raising the remainder. Part of the work to be done will require the permission of the legislature, and Col. Rae will go before that body with the plans and ask that such consent be given. All the yacht and boat clubs, he says, will have an equal right to use these facilities by paying the initiation fee and observing the rules of the club.

The U. S. light-house tender, Columbine built by the Globe Iron Works Co., Cleveland, O., under command of Lieut. Comdr. C. H. West, U. S. N., is reported from New York for Portland, Ore., arrived at Bahia, Brazil, on Nov. 19; all well.

STORM SIGNAL CODE AS EMPLOYED AT CANADIAN LAKE STATIONS.

(Illustrated.)

Through the courtesy of Prof. Charles Carpmael, director of the meteorological service of the Dominion of Canada, we are enabled to present to the United States lake marine the storm signal code displayed at Canadian lake stations, and directions to mariners with reference to Canadian storm warning signals issued for the lakes.

FIG. No. 1.—This signal, if displayed on Lakes Superior, Erie or Ontario indicates "moderate gale is expected at first from an easterly direction." If displayed on Lake Huron or Georgian Bay indicates a "moderate gale is expected at first from a southerly direction."

FIG. No. 2—If displayed on Lake Superior, Erie or Ontario, indicates "moderate gale is expected, at first from a westerly direction." If displayed on Lake Huron or Georgian Bay indicates "moderate gale is expected, at first from a northerly direction."

FIG. No. 3.—If displayed on Lake Superior, Erie or Ontario, indicates that a "heavy gale is expected at first from an easterly direction." If displaped on Lake Huron or Georgian Bay, indicates, "heavy gale is expected at first from a southerly direction."

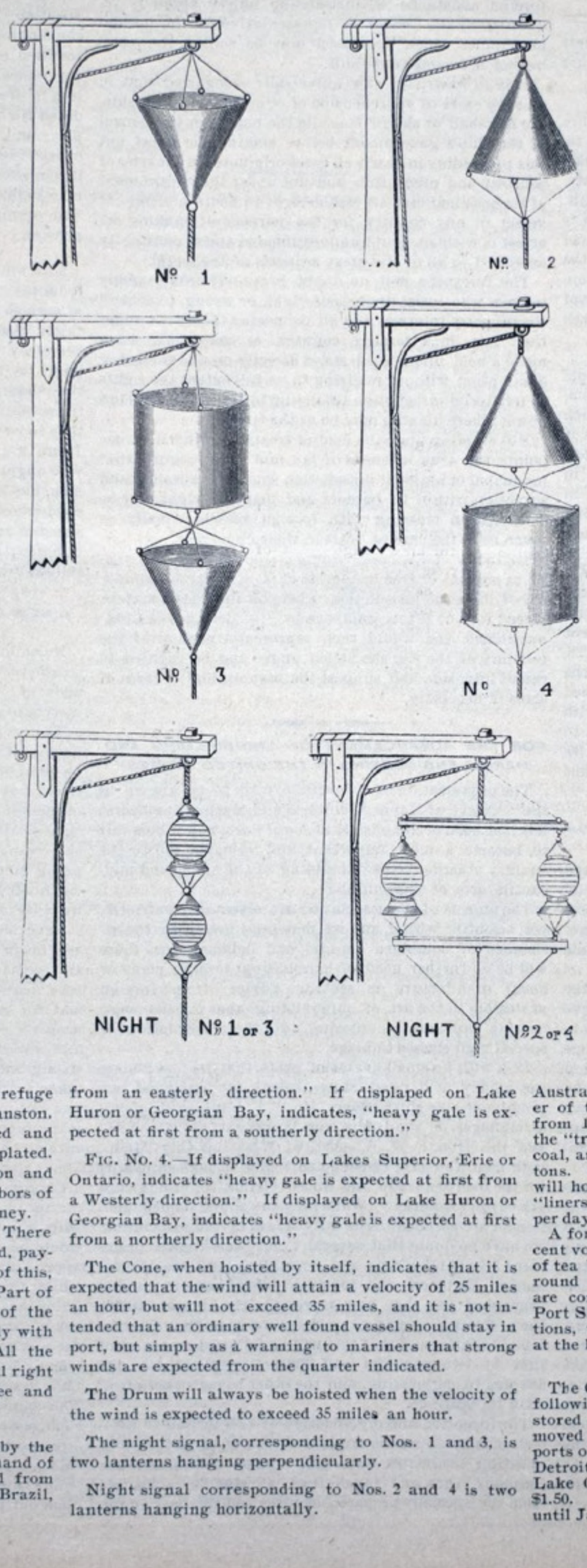

FIG. No. 4.—If displayed on Lakes Superior, Erie or Ontario, indicates "heavy gale is expected at first from a Westerly direction." If displayed on Lake Huron or Georgian Bay, indicates "heavy gale is expected at first from a northerly direction."

The Cone, when hoisted by itself, indicates that it is expected that the wind will attain a velocity of 25 miles an hour, but will not exceed 35 miles, and it is not intended that an ordinary well found vessel should stay in port, but simply as a warning to mariners that strong winds are expected from the quarter indicated.

The Drum will always be hoisted when the velocity of the wind is expected to exceed 35 miles an hour.

The night signal, corresponding to Nos. 1 and 3, is two lanterns hanging perpendicularly.

Night signal corresponding to Nos. 2 and 4 is two lanterns hanging horizontally.

NOTE 1.—Mariners will be able to obtain further information from Storm Signal Agents, or by consulting the daily probabilities.

NOTE 2.—Mariners must always bear in mind that the storm signals are merely cautionary, and do not necessarily mean that a storm will occur at a place where the signal is displayed, but that one is expected either there or within such a distance that vessels leaving port would be liable to be caught in it.

NOTE 3.—October and November are the months in which severe storms most frequently occur on the lakes. In these fall storms on Lake Erie and Ontario, the wind almost invariably commences at the S. E., works round through south to west and north-west, the time of the hardest blow being usually when the barometer begins to rise as the wind gets around to the west. On Lake Huron and the Georgian Bay, the wind—though for the most part changing as on the Lower Lakes—not unfrequently changes with great suddenness, chopping after a lull from S. S. E. to N. W., and blowing hardest as a rule from the N. W.

SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS.

It is announced that the most prominent and influential men in the shipbuilding and shipping interests of the United States have completed the preliminary organization of a professional society of high standing, to be called the "Society of Naval Architects and Marine Engineers," whose object shall be to promote the art of shipbuilding in all its branches, both commercial and naval.

The committee of organization, consisting of William H. Webb, of New York; Lewis Nixon, general manager of Cramp's Shipbuilding Co., of Philadelphia; Colonel E. A. Stevens, of Hoboken; Francis T. Bowles, naval constructor, United States Navy, and Clement A. Griscom, president of the International Navigation Co., expect to incorporate the society in New York and are now sending out invitations to membership, hoping to have the first meeting at the time of the naval review next spring.

The list of those who have accepted positions in the preliminary organization include many well known names from all sections of the country. The president is Clement A. Griscom; vice-presidents, Theodore D. Wilson, chief constructor of the navy; Charles H. Cramp, George W. Melville, George W. Quintard, New York; Irving M. Scott, San Francisco; General Francis A. Walker, Boston, and W. H. Webb, New York. The members of the council include H. T. Ganse, Wilmington, Del.; Hon. F. W. Wheeler, West Bay City, Mich.; W. H. Jacques, Bethlehem Iron Works; Gen. T. W. Hyde, Bath, Me.; J. W. Miller, New York; C. H. Orcutt, Newport News, Va.; Nathaniel G. Herreshoff, Newport; J. F. Pankhurst, Cleveland, O.; Naval Constructors Hichborn and Bowles, of the navy; Chas. H. Loring, Captains Sampson and Chadwick, of the navy, and Harrington Putnam, of New York. W. L. Cappa is secretary and treasurer.

In view of the increasing importance of American shipbuilding interests and the development of the navy, the organization of this society upon a basis similar to that of the civl engineers and kindred professions is regarded as opportune and having a valuable and extended field of influence in technical subjects and public affairs.

THE FUEL CONSUMPTION ON OCEAN STEAMERS.

Ocean steamers consume much more fuel than the average person is aware of. Take, for an instance, the vessels of the Orient Line, which make regular trips between Australia and Great Britain. The fastest steamer of that line is the Austral, which makes the trip from London to Sydney in thirty-five days. During the "trip out" she never uses less than 3,650 tons of coal, and on the return voyage often as much as 4,000 tons. She has three coaling stations, and bunkers that will hold 2,750 tons without overcrowding. Atlantic "liners" like the Oregon consume over 300 tons of coal per day for every day between Liverpool and New York.

A foreign exchange says the Stirling Castle on a recent voyage to China brought back a cargo of 2,200 tons of tea but consumed 5,000 tons of coal in making the round trip from Liverpool. Immense stocks of coal are constantly kept on hand at St. Vincent, Madeira, Port Said, Singapore and other oriental coaling stations, there often being as much as 200,000 tons in store at the last-named place.

WINTER INSURANCE.

The Chicago Board of Marine Underwriters fixed the following rates of marine and fire insurance on grain, stored on vessels in Chicago river during the winter and moved next spring: To ports on Lake Michigan, $1; to ports on Lake Superior, $1.25; Lake Huron, Sarnia and Detroit river, $1; Georgian Bay and Lake Erie, $1.10; Lake Ontario, $1.25; Ogdensburg, $1.20; Montreal, $1.50. These rates are per $100 and will remain in force until Jan. 1.

The Marine Record,

ESTABLISHED 1878.

Published every Thursday, at 144 Superior Street
(Leader Building,) CLEVELAND, O.

IRVING B. SMITH.
CAPT. JOHN SWAINSON } - - - Proprietors.

BRANCH OFFICE.

CHICAGO ILL., - - - 35 Franklin St.

THOMAS WILLIAMS, Associate Editor.

SUBSCRIPTION.

One copy, one year, postage paid, - - - - - - $2 00
One copy, one year, to foreign countries, - - $3 00

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CLEVELAND, O., DECEMBER 1, 1892.

THE shipbuilders supplement presented to our readers with this issue is the work of the Chicago Photo-Gravure Company.

SEVERAL of the lake ports are increasing their fire protection facilities by building fire boats. Since the recent disastrous fire at Milwaukee, it has been determined to add two fire boats to the equipment of the city. Cleveland is also figuring on having a second boat built. Detroit has one in course of construction. Buffalo is about completing the second boat, and Duluth has had harbor tugs specially fitted to act as fire boats. From the excell nt service which the boats now in commission have rendered, the departure is a good one and no port of any pretentions to commerce ought to be without a well equipped fire boat.

SOME interesting figures are obtained from the annual report of the supervising inspector general of steamboats for the fiscal year ended June 30, 1892. Much comment is made from time to time regarding the loss of life through casualties to shipping, yet we find that out of a total of 650,000,000 passengers carried on vessels in 1892, the average loss of life amounted to only one in 2,708,333 of the passengers carried. From the foregoing t may be justly argued that travel by steamboat is not only safer than by railroad, or any other vehicular mode of travel, but the percentage of fatalities is actually less than is the pedestrian traffic in large cities, and almost incalculably so where the electric motor cars glide along at a ten-mile gait. The present steamboat inspection laws went into effect February 28, 1871, and during the intervening twenty-one years the number of steamers undergoing inspection has increased from 3,102 inspected in 1870 under the law of 1852, with a total tonnage for that year of 942,272 gross tons, to 7,661 steamers during the fiscal year ended June 30, 1892, with a total tonnage of 2,000,553.37 gross tons, thus showing an increase of over 100 per cent. since 1870.

IRON AND STEEL SHIPBUILDERS OF THE NORTH-WESTERN LAKES, U. S. A.

THE MARINE RECORD is indebted to the iron and steel shipbuilders of the Great Lakes for their special courtesy in permitting the use of their portraits for reproduction in supplement form by the photo-gravure process, which we present with this issue to the maritime interests of the United States.

These representative men, including the builder of the first metal freight steamer ever built on the lakes, have been instrumental in building up an industry second to none in the bearing which it has on the national prestige and the commercial growth of the inclusive industries of the United States, and none too much credit can be given them for the study, skill and technical ability they have brought to bear in their profession so as to place lake shipbuilding on the high standard of marine architecture to which it has now attained.

Another somewhat remarkable feature which comes before us in lake shipbuilding is the fact that the iron and steel shipyards have now contracts booked that will carry them well into next year, and the total value of new tonnage at present under construction, in round figures, approximates the large sum of eight million dollars, with future orders held back on account of builders not being in a position to fix a positive date for delivery.

During the past two years the lake shipyards entered into successful competition with their brethern on the coast, with the result that a fleet of lake-built light-house tenders, both wooden and metal, steel freight steamers and handsome steel steam yachts are now in service on the ocean, and the competition is only limited by the dimensions of the waterway to the coast, a feature which will undoubtedly be overcome, probably in the next decade.

JURISDICTION UNDER THE FLAG.

The principle has been generally held by shipmasters that the deck of a ship under a national flag in a foreign country, is as much national territory as the soil over which it is rightfully entitled to float.

In the notes to the last official (State Department) edition of "Treaties and Conventions between the United States and other Powers," page 1405, the following clause may be found:

"A merchant vessel, except under some treaty stipulation otherwise providing. has no exemption from the territorial jurisdiction of the harbor in which she is lying."

A Canadian vessel in the port of Buffalo is not a part or parcel of the Dominion of Canada, even if she flew an Ensign from each truck, or mast-head, and an officer of the State of New York, or of the United States having a warrant for the arrest of any person on board, for any crime against the public peace, political or non-political, would not hesitate to board the vessel and execute the writ. The actual disciplinary rules in force on the vessel does not, however, call for such intervention of foreign assistance or jurisdiction unless specially requested by the Consul or representative of the nationality under which the vessel may be sailing, the vessel herself not being in default.

It is an unwritten law universally recognized that in all such cases of apprehension of offenders on board ship, the marshall or sheriff consults the master or the Consul of the ship's government before making the arrest, but this proceeding in nearly all cases originates in a matter of courtesy and precaution, and not under the requirement of the national law. Yet, the right to board a merchant vessel in any country for the purpose of making an arrest is without doubt unquestionable and is constantly exercised in all of the great seaports of the world.

The foregoing will no doubt be a revelation to many seamen who insist upon their right, or wrong, to control the property interests and all connected therewith under their flag in a foreign country, as many men have made a bold unqualified stand directly on the foregoing assumption, without realizing to its full extent the rights of territorial jurisdiction belonging to the port or foreign power where his ship may be at the time

Not entering upon the field of treaties or other abstruse points, the true interests of law and order require that municipal or national jurisdiction should be absolute and sovereign within its borders and that this right may be exercised in treating with foreign vessels equally as much as in the case of craft in their home port.

This view of the case holding good, the merchant vessel in neutral or free waters, that is, outside the boundary of national jurisdiction, wherever that limit may be placed for our future guidance by the Bering Sea Commissioners, she would then represent a portion of the territory of the flag she sailed under and be entitled to resent intrusion and support the assumption by force of arms if necessary.

FOR THE ADVANCEMENT OF SHIPBUILDING AND MARINE ENGINEERING IN THE UNITED STATES.

The organization of a scientific body to be known as the "Society of Naval Architects and Marine Engineers" has just been accomplished at New York, and it bids fair to become a most important and valuable aid to the country at large in the upbuilding of the naval and mercantile arts of shipbuilding.

The objects of the association are essentially patriotic, yet, scientific withal, and we may hope that with the assistance of combined counsel and deliberations, there will be no further need of purchasing foreign plans of naval architecture or seeking advice from foreign professors in the art of shipbuilding and marine engineering previous to entering into the construction of special high classed tonnage.

It is with no small degree of pride that we find among the galaxy of United States talent, the names of two prominent lake shipbuilders, Mr. J. F. Pankhurst, general manager of the Globe Iron Works Co., Cleveland, O., and the Hon. F. W. Wheeler, of West Bay City, Mich., both men who have constructed vessels at lake shipyards for the over-sea trade and whose claims to prominence are beyond question. While only the above named gentlemen are enrolled in the early stages of the association, we have no doubt that several other well-known prominent lake shipbuilders and consulting and mechanical marine engineers will soon add their names to the distinguished list that now represents the highest skill in the profession of marine architecture to be found in the United States, and that this will be followed in course of time by two powerful and distinct organizations; one devoted to engineering, and the other to construction in all of its bearings.

The inception and organization of this technical association is by no means original at this time, as the older maritime countries have had similar bodies at work for many years, and much that is valuable is learned from the specially prepared lectures and treatises on immediate and pertinent subjects brought before the attention of these technical associations.

In a wide liberal sense, and on account of its important national bearing, we trust that the Society of Naval Architects and Marine Engineers will take unto itself a share of that energy and character so vividly displayed by its members in commercial life, and place the new association where its utterances will be accepted as the key note of advancement in the arts and sciences contained in the construction and equipment of universal tonnage. By so doing, the United States will again be in a fair way of attaining that supremacy of undisputed authority in the art of naval and mercantile shipbuilding in iron and steel which the era of packet and clipper ships gave her in the age of wooden tonnage.

A SUSPENDED LICENSE.

The board of local steamboat inspectors, at Seattle, Wash, has rendered a decision holding Capt. John A. O'Brien guilty of negligence in stranding the whaleback steamer Charles W. Wetmore on the night of September 8th, off Coos Bay, and has revoked his license. The revocation, however, only extends to the expiration of the annual date for which the license was granted, or renewed, so that if Capt. O'Brien held a license eligible for renewal December 1st, the court has simply given him a week to get over the inquiry, as their finding is dated November 22nd. Such a revocation is only child's play, and means nothing but the jugglery of a weak court of inquiry. Furthermore, if Capt O'Brien is found incompetent as master for a week or a month, is or is he not eligible to a license of a lower grade, so that he may find occupation if desirous during the term of his suspension.

THE bill now on the calendar with a favorable report from the naval committee, recommending the retirement of seamen in the United States navy after a service of thirty years, ought to be adopted. Benjamin F. Tracy, Secretary of the Navy, cheerfully lent his support to the advancement of this measure, and the least that can be expected of the country is that it will support its old naval veterans after they have worn out their life in the service of the nation. There are many old "sea-dogs" now in the service who ought to be sent ashore and room made for younger men, but we would not advocate their being cast off and condemned like an old shoe. Give those who have assisted in supporting the dignity and prestige of the nation afloat for a generation or two, enough to buy their rations ashore in their declining years.

A NEW CLASSIFICATION REGISTER FOR LAKE-BUILT TONNAGE.

Rules for the construction and classification of lake steamers, compiled and controlled by a representative body of lake shipbuilders, owners, underwriters and merchants, are now being drawn up at Cleveland, O.

The preamble to the subscription list is worded as follows: "It has occurred to some of our influential shipowners, shipbuilders and others doing business on the Great Lakes, that there is in our midst men of sufficient influence, talent and experience to devise and control a classification register of our own, and that without aid or extraneous support of any kind in the matter of compiling rules to govern the construction of our ships and machinery, or in assigning a class to vessels, based on their merits as found to exist on careful examination."

Experience has shown that first-class lake steamers are much more durable than was at first supposed, and we have no reason to doubt that a first-class steel lake steamer, when properly cared for and kept up, will last for perhaps fifty years, and such vessels might properly retain their class so long as on careful annual and special periodical survey, they are found to be strong and good in all respects. We have also on our lakes a great number of first-class wooden steamers and sailing vessels, and it has been the experience of many interested in this class of craft, that with proper care and attention, they should retain a high class for about a score of years.

Classification—While admitting that it is a difficult matter to assign the precise amount of merit due to each ship, it is thought possible by a definite formulae, which would be applicable to all vessels, to arrive at a close approximation to their actual structural strength, and while this would form a basis for the committee's guidance, it would of course depend upon the state of a vessel generally when carefully examined, as to whether she merited the highest or some lower class.

It is proposed to encourage shipbuilders to design their vessels according to their own mature experience. The committee propose to assign the highest class to such vessels so long as the parts where the severest stresses may be experienced are found to be equal to rule.

The rules of the Great Lake Register will be based upon our best lake practice as known to exist by care-

ful investigation and inspection by competent and experienced surveyors.

It is proposed to charge an annual fee of $100 for the inspection of large vessels, which should be ample to cover the current expenses of the corporation or association and to reduce such membership fee each year, so far as the working expenses will permit, and to place the surplus over and above the expenses of maintaining the corporation or association into a siuking fnnd, to be applied to the extension of the association's business, thereby doing away with any undue stimulus to its executives to recommend inferior vessels for high class for the sake of paying dividends or directly benefiting themselves.

Further, it is intended that the vessels of this association shall be subject to careful examination and their condition shall be placed before a quorum of a mixed committee in such a clear and plain manner that a non-technical commercial man may fairly judge as to their merits, and thus assign to such vessels their proper class.

As the rules which are offered to govern our shipbuilders and the classification of our vessels all emanate from some foreign association, it is a fair inference that we had better devise rules for ourselves, and it is proposed to charge subscribers $25 per annum, which will entitle them to one copy of the Register book and monthly supplements.

Upon the formation of this corporation or association the tariff of fees, the number of officers and committees, rules for the construction and classification of vessels, etc., will be definitely arranged.

LAUNCH OF THE SELWYN EDDY.

The large steel steamer built at the Wyandotte yards of the Detroit Dry Dock Co. to the order of Eddy Bros., will be launched on Saturday afternoon next at three o'clock. The Eddy is the longest vessel ever built on the lakes, being 360 feet in length, 42 feet beam and 24 feet deep. She is of the straightback or sheerless type of construction, several of which have already been built for lake service.

IMMIGRATION AND QUARANTINE.

Special Correspondence to The Marine Record.

WASHINGTON, D. C.—The restriction of immigration, national and state quarantine and the disinfection of imported merchandise are matters that are sure to come before Congress, and the general line of inquiry is to be as follows:

1. The question of quarantine administration in foreign countries as furnishing precedents for America.
2. The present status of quarantine in America, national and state.
3. The cost of quarantine administration under the existing system and the restrictions imposed upon commerce.
4. Would a national quarantine lessen the existing imposts upon commerce and afford increased security to the country?

The Special Committee on Immigration was instructed to consider two sets of resolutions, one favoring legislation to restrict promiscuous immigration, and the other requesting Congress to consider the desirability of prohibiting immigration in the place of our present regulating laws, which have proved a failure to regulate.

Several of the transatlantic steamship companies are very much displeased with U. S. Surgeon General Wyman's administration of the national quarantine against the cholera epidemic and are understood to be taking steps to endeavor to bring about his displacement and the reappointment of ex-Surgeon General Hamilton. Alleged unnecessary detention of steamships are the principal matters of grievances against Dr. Wyman.

THE LAKE VOYAGE.

From Harper's Weekly.

From the hour you leave Duluth, in the edge of the evening—Duluth with her sparkling coronal of lights and her cincture of electric diamonds, with the crescented moon and the star-dusted sky, and the Northland's aurora over all—from that hour until, nearly six days later, you reach the docks of Buffalo, you shall find your long voyage on the inland seas of America one of the interesting events of a lifetime. If you are searching for health, you shall find ozonic influences to redden your blood; if you are satiated with Old-World scenes, you shall here find interesting change, enchanting variety; if you are a weary brain-worker, drooping under some city sun, you shall here find health's reincarnation; if you have an eye to the material and seek the solution of problems economic, you shall find material in what has been done, what is being done and what is yet to be done in commerce on the shores of these seas sufficient to fill bulky tomes.

A MEETING OF UNDERWRITERS.

Invitations have been sent out from Chicago to lake underwriters and general agents to attend a meeting to be held early in the present month to consider the question of insurance inspection and classification of vessels by a competent society.

It seems to be the general feeling that the present Inland Lloyds' Register might be adapted to meet the requirements by the addition of rules covering iron, steel and composite construction. Thereafter all contracts for new tonnage might read, "for a stated classification in Inland Lloyds," thus relieving the builders and owners from the wrongly placed responsibility which they now have to shoulder.

It will no doubt take a great deal of work to reorganize the Inland Lloyds and get out new rates to apply on vessels now building, but it is argued that the lakes can incorporate a system of inspection and classification rules as well as any of the existing associations.

The United States Standard Steamship Owners', Builders' and Underwriters' Association, of New York, organized for the purposes of classification, have sent a cordial invitation to the general insurance agents to attend a meeting or conference in New York, but it is a question whether the invitation is accepted or not, and if the feeling gains ground that the Inland Lloyds can be revised to suit the tonnage of the lakes, both classification and underwriting will be kept on similar lines as in the past.

UNITED STATES LIFE SAVING SERVICE, 1892.

The following is an abstract of the report of the General Superintendent of the Life-Saving Service:

The establishment embraced at the close of the last fiscal year 242 stations, 181 being on the Atlantic, 48 on the Lakes, 12 on the Pacific and one at the falls of the Ohio, Louisville, Ky.

The number of disasters to documented vessels within the field of the operations of the Service during the year was 337. There were on board these vessels 2,570 persons of whom 2,550 were saved and 20 lost. The number of shipwrecked persons who received succor at the stations was 747, to whom 1,847 days relief in the aggregate was afforded.

The estimated value of the vessels involved in the disasters was $5,584,160, and that of their cargoes $2,700,365, making a total value of property imperilled $8,284,525. Of this amount $7,111,005 was saved and $1,173,520 lost.

The number of vessels totally lost was 59.

In addition to the foregoing there were during the year 170 casualties to small craft such as sail boats row boats, etc., on which there were 353 persons, 346 of whom were saved and 7 lost. The property involved in these instances is estimated at $67,810, of which $63,470 was saved and $4,340 lost. The results of all the disasters within the scope of the Service aggregate, therefore, as follows:

Total number of disasters	507
Total value of property involved	$8,352,335
Total value of property saved	7,174,475
Total value of property lost	1,177,860
Total number of persons imperilled	2,923
Total number of persons lost	27
Total number of shipwrecked persons succored at stations	747
Total number of days succor afforded	1,847
Number of vessels totally lost	60

In addition to the number of persons saved from vessels there were 36 others rescued who had fallen from wharves, piers, etc., and who would have perished without the aid of the life-saving crews. The crews saved without outside assistance 167 vessels, valued with their cargoes at $736,345 and assisted other efforts in saving 101 vessels, valued with their cargoes at $2,942,340, making the aggregate number of vessels saved during the year 268, involving $3,678,685.

Assistance of minor importance was rendered to 213 other vessels in distress, and 265 vessels were warned from danger by the signals of the patrolmen.

The cost of maintenance of the Service during the year was $1,009,234.86.

The investigations held in each case of loss of life show that in no instance was there any failure in duty on the part of the life-saving crews, and that the persons who perished were entirely beyond the reach of human aid.

The following is a summary of the statistics of the Service from the introduction of the present system in 1871 to the close of the fiscal year.

Total number of disasters	6,450
Total value of vessels	$71,367,850
Total value of cargoes	33,342,469
Total value of property involved	104,710,319
Total value of property saved	78,821,457
Total value of property lost	25,888,862
Total number of persons involved	52,879
Total number of lives lost	627
Total number of persons succored	9,989
Total number of days' succor afforded	26,081

Since the last report stations have been established and put in operation at Burnt Island, near the mouth of St. George's River, Maine; Quonocontaug, Rhode Island; Fenwick's Island, Delaware; and Ilwaco Beach, Washington; and a station is in process of construction at Brant Rock, Massachusetts. A station is also in course of construction on the grounds of the World's Columbian Exposition, to take the place of the old Chicago station. This station will also be utilized for exposition purposes during the World's Fair.

Extensive repairs and improvements have been made to 15 stations on the coasts of Maryland and Virginia; also to the Grumple Island station, Maine; the Lewes station, Delaware; and the Golden Gate Park station, California; and similar work is progressing at several stations on the coast of Massachusetts.

The telephone line authorized to be established between Cape Charles and Assateague Island, Virginia, by act of Congress, approved May 13, 1892, is under construction and approaching completion.

The General Superintendent expresses his gratification upon the passage at the last session of Congress of the act increasing the compensation of the keepers and surfmen during employment at the stations. He states that its good effects are already apparent in the fact that in all instances men of the very best qualifications for the work of the Service are now obtainable, and the officers in charge find themselves able to dispense with some inferior men whom the rate of compensation formerly prevailing compelled them to take. Moreover, the men accept with greater cheerfulness the hardships and privations of their calling, and an improved *esprit de corps* throughout the Service is obvious.

FLOTSAM, JETSAM AND LAGAN.

The steamer Charles McVea and the schooners Alert and Addie are in winter quarters at Holland, Mich.

The tug Hand, owned by the Bay City Dredging Co., caught fire in the boiler room last Sunday night and was damaged about $1,500.

A writer on weather predictions makes the following pertinent suggestions, which, although not officially vouched for contain a great deal of truth.

Capt. E. E. Chapman, superintendent of the ninth district of the Life Saving Service, is making a tour of inspection of the stations on Lake Erie.

The whaleback steamer Thomas Wilson cleared from Buffalo for Duluth on Monday with 2,000 tons of coal at one dollar. This is doubling the best rate of the season on coal to the head of the lakes.

By the explosion of the steam pipe on the steamer Dixon, on Monday, at Duluth, fireman William NcNulty and an eight-year-old boy, named William Brooks, who was talking with the fireman, were instantly killed. The explosion took place while the Dixon was at the coaling dock.

The passenger steamer Frank E. Kirby left Detroit Sunday morning at 9:30, went to Sandusky, loaded 162 tons of sugar, returned by way of Put-in-Bay and arrived at Detroit Monday at 9:30 a. m. The number of miles covered was 160—and it is not likely that any vessel on the lakes can show a like record. The Kirby made her final trip of the season on Monday morning.

Smith, Davis & Co., insurance agents, of Buffalo, forwarded to J. C. Gilchrist, of Vermillion, a draft of $80,000 in payment of their portion of the insurance in the lost steamer W. H. Gilcher. The amount, which is probably the largest ever paid by one firm in the history of lake navigation, is divided as follows: Western, $25,000; British & Foreign, $25,000; Orient, $15,000; Security, $15,000.

As long as air currents are allowed to cut up capers in all sorts of strata it is not to be presumed there will be respectable consistent conduct among the earth winds that are constitutionally susceptible to the caprices and follies of the volatile sirens of the upper attenuation of atmospheric ethics. Therefore, when the Weather Bureau goes out gunning for a wind supposed to have left its lair in the extreme northwest it is likely to become as hopelessly perplexed as was Pat the morning he was sent out to count the pigs in the new litter. An hour or two later he strolled disconsolately back to the house and was asked: "Well, Pat, did you count the pigs?" "Sure, sor, and I did that same, bedad! Many's the times I counted 'em, sor." "Well, how many are there?" "Ah, hiven bless ye, sor, I'll never be after tellin' ye, for it's meself don't know, divil a bit." "What's the matter? Can't you count?" "Ordjinarily, well enough, the Lord be praised. But sure there's a wee bit white and black divil of a pig do be runnin' about to that ixtint, niver lavin' himself be still a moment, that it's meself could niver count him intirely at all, an' whidder there be sivin or twinty pigs to the auld sow it's yer honor must be discoverin' for yerself." It is the little wind playing pranks with old Boreas that puzzles the department and knocks the count out of gear.

MARITIME LAW.

CARRIER—DAMAGE TO CARGO—INSUFFICIENT PUMP—LIABILITY OF VESSEL UNDER CHARTER.

U. S. District Court, Southern District of New York.

A vessel was demised by her owner to charterers, who sub-chartered her. The original characters undertook to transport a cargo of sugar by the authority and with the consent of the owner, and the master issued bills of lading for it. The cargo was delivered damaged, the evidence showing that part of the damage was caused by water taken in through deck openings in heavy weather, and part was due to a bad condition of the ships pump and valve, which condition had existed at the commencement of the voyage. Reasonable care, also, was not taken to remove the water from the ship's hold. Held, that under the bill of lading, or without any bill of lading whatever, under her implied contract to transport safely, the ship would be liable for the damage caused by her defective equipment, though not for the damage caused by water taken in through the deck openings, which was a peril of the sea.Brown, J.

LIABILITY FOR MARINE INSURANCE ON SPECIAL VERDICT.

In an action on a marine insurance policy it appeared that the vessel insured was, in a storm, cut adrift from a propeller and lost. A special verdict was found that the vessel was cut adrift "to relieve the propeller and tow from a danger of navigation, and for the best interest of the property at risk." Here the insurer's liability was not limited by such verdict to a general average loss, as it did not show the sacrifice was made as the sole means of averting an immediate, common danger to the property and crew. British-American Assurance Co. vs. Wilson, Supreme Court of Indiana, 31 N. E. Rep. 939.

SHIPPING—MASTER—NEGLIGENCE—APPROACHING DANGEROUS COAST.

District Court, S. D. New York. July 13, 1892.

When a vessel is approaching a dangerous coast at night, amid uncertain currents and in a deceptive atmosphere, it is the master's duty to make use at the first opportunity of all his available means provided for correcting by observation the errors of dead reckoning; and for losses either to ship or cargo, resulting from his neglect to do so, the master is directly responsible to the persons injured. In this case the master was held negligent (1) for not making such change of course as the chart showed was necessary upon his own estimate of his position; (2) not using the alidale in order to correct his erroneous estimate of his position. Fed. Rep., vol. 52, p. 152.

SHIPPING—DAMAGE TO CARGO—INSUFFICIENT FITTINGS—NEGLIGENCE.

District Court, S. D. New York. July 11, 1892.

A cargo of tea was delivered damaged by water which had been admitted to the hold of a vessel through an open bolt hole in the water ballast tank. The court found that the damage proceeded either from the orignal insufficiency of a stanchion, which the bolt had served to fasten, or its bad condition or bad fastening at the commencement of the voyage. Held, that the ship, not the cargo, took the risk of such defect. Fed. Rep., vol. 52, p. 155.

SHIPPING—DELAY IN SAILING—CONTROVERSY BETWEEN OWNER AND CHARTERER—LIABILITY TO CARGO OWNER.

District Court, S. D. New York. July 14, 1892.

The owners of a vessel chartered her for the purpose of procuring freight, and the master issued the usual bills of lading to a shipper, importing a delivery of the goods within a reasonable time. Thereafter a controversy arose between the owners and charterers, by reason of which the sailing of the vessel was unduly delayed. Held, that the vessel was liable to the shipper for the excessive delay caused by such controversy.

SAME—DELAY DUE TO ATTACHMENT VESSEL—DUTY OF OWNER TO SHIPPER.

When a vessel was attached after cargo had been put aboard, and could not be released until the end of an uncertain litigation, held, that the shipper's goods should have been transferred to another vessel, or notice given the shipper of the liability to delay, with the privilege of reshipping. In default of this, the ship took on herself the risk of loss by delay, with the right of recourse for indemnity over to the person causing it. Fed. Rep., vol. 52, p. 156.

SHIPPING—DAMAGE TO CARGO—INSUFFICIENT PUMP—NEGLIGENCE.

District Court, S. D. New York. June 11, 1892.

Where a vessel arrived with her cargo of sugar damaged both above and below by water in the hold, and the evidence indicated that the damage above had been caused by water taken in through the deck openings in heavy weather, but that the damage below was caused by a bad condition of the ship's pump and valve, which condition existed at the commencement of the voyage, and also that reasonable care had not been taken to remove the water when it was found that the pumps were choked, it was held that the ship was liable for the latter damage; not for the former.

SAME—CHARTERED VESSEL—LIABILITY OF SHIP.

The vessel was demised to charterers, who had subchartered her at the time of the damage by a charter of affreightment. Held, that the original charterers having undertaken to transport the goods under authority and consent of the ship owners, under a bill of lading signed by a duly-authorized agent, or without any bill of lading whatever, on her implied contract to transport safely, the ship would be liable. Fed. Rep., vol. 52, p. 161.

SALVAGE—WHAT CONSTITUTES TOWAGE.

Circuit Court, E. D. Pennsylvania. July 1, 1892.

On towing into port a lightship which had broken adrift during a severe storm, and been carried out to sea, is not a salvage service, when the lightship was not in peril when she was taken into tow, and could, with a little delay, have reached a place of safety without assistance.

TOWAGE SERVICES—COMPENSATION.

In determining the compensation for a towage service, the value of the towing vessel and cargo, the risk incurred, the fact that the vessel was not intended or adapted for towage service, the chance of endangering the towing vessel's insurance, the time spent in and the danger incurred by lying by the vessel towed before the towing could commence, and the time spent in deviating from her course, may be considered, although the service rendered does not amount to a salvage service. Fed. Rep., vol. 52, p. 172.

TRIAL TRIP OF THE STEEL STEAMER PIONEER.

Under date of September 19, 1892, the Detroit Dry Dock Co., builders of the new steel steamer Pioneer, had a most inclusive trial trip of this vessel, built to the order of the Cleveland Cliffs Iron Co., at a valuation computed for insurance purposes of $115,000.

This trial was made for the purpose of ascertaining the maximum power that could be easily maintained for continuous trips, and the results of the Howden Forced Draught System, with which this ship is fitted. No attempt was made to force the machinery beyond this point.

The trial was made on Lake Erie, from Bar Pointe Light to Buffalo Breakwater, a distance of 230 miles.

Indicator cards were taken every two hours; also readings from the guages showing air pressure in ash pit, boiler pressure, vacuum, and revolutions. The fan was kept as nearly as possible at a uniform speed of 400 revolutions per minute.

The temperature of the chimney was taken every four hours by a pyrometer, at a point about 19 feet above the tubes, which was the only accessible place.

The only means of ascertaining amount of coal used, was to measure amount left in bunkers at end of trial, and deduct this from amount on board at commencement of trial, so that results given are only approximate.

VESSEL.	
Length over all	241′
" keel	225
Breadth	35 2″
Depth	17 6
Mean Draft at trial	14 8
Displacement at trial, net tons	2685
Cargo and fuel, net tons	1810
ENGINE.	
Cylinder's diameter, inches	20″ 33″ and 54″
" stroke	42
Propeller diameter	12′ 6
" pitch	14 9
BOILERS—Fitted with Howden's System of forced draft.	
Number	2
Diameter	12′
Length	11 6″
No. of Furnaces, total	4
Diameter of Furnaces	3′ 7″
Grate surface, square feet, total	164
Heating surface, square feet, total	6204
Ratio	37.7
Diameter of Fan	48″
Area of Air Main, square inches	576
Size of Fan Engine	7″ x 7″
PERFORMANCE.	
Boiler pressure, pounds	159.27
Vacuum, inches	21.86
Revolutions per minute	87.90
Indicated horse power, H. P. Cylinder	300
" " " Int. "	386
" " " L. P. "	421
" " " Total	1107
Distance run during trial, miles	230
Running time, 17 hours and 40 minutes	
Speed of vessel, miles per hour	13.02
Slip of Propeller, per cent	11.6
Coal, per hour, pounds	1867.8
" " I. H. P., per hour, lbs.	1.68
" " per sq. feet of grate, "	22.68
Heating surface per I. H. P., sq. ft.	2.79
I. H. P. per sq. ft. of grate	13.46
Air Pressure in Ash Pit, ins. of water.	.563
Revolutions of Fan per minute	400
" " " Engine, per min.	182.8
Temperature of Chimney, Fah	575°
" " feed water, Fah	118°
MAXIMUM PERFORMANCE.	
Boiler Pressure, pounds	165
Vacuum, inches	21.5
Revolutions per minute	90
Maximum power developed, H. P. Cyl.	317
" " " Int. "	433
" " " L. P. "	473
" " " Total	1223
I. H. P. per sq. ft. of grate surface	14.86

The electric light engine was running for six hours, and steering engine constantly during trial. The last may seem unimportant, but owing to slack in trick gear and tiller chains, the engine had to make a considerable number of revolutions.

NOTES.

THE tug Margaret J. Sanford is reported to be still doing excellent work with her new Roberts boiler, which has largely increased the power with a decided decrease of fuel expenditure. She has a 14x28x22 compound engine.

ASHLAND, Wis., comes to the front again this season as a Lake Superior ore shipping point with a total season shipment of 2,220,000 tons. The complete returns are not yet compiled, but this approximate is very near to the actual figures.

The first of the series of papers by Past Asst. Engineer Hollis, on the coal consumption, steaming radius and engine efficiency of the new naval ships, will appear in the November issue of the Journal of Society of American Naval Engineers, Washington, D. C.

THE Conneaut Terminal Railway Co., controlling the new ore and coal dock at Conneaut, Lake Erie, was incorporated a few days ago. The capital is fixed at $1,600,000, and the incorporators are Samuel B. Dick and A. C. Heidekoper, of Meadville, Pa.; Allen W. Cox, of Cincinnati; Thos. M. Weller, of Youngstown, O., and F. E. Rittman, of Cleveland.

MARK W. HARRINGTON, chief of weather bureau, has sent out notice that the display of wind signals will be discontinued on the lakes, except at Milwaukee, Grand Haven, Manistee and Ludington, on the following dates: On Lakes Pepin and Superior, including Sault Ste-Marie, December 1, 1892, and on Lakes Ontario, Erie, St. Clair, Huron and Michigan, December 10, 1892.

E. Platt Stratton, engineer surveyor to the Record of American and Foreign Shipping, says he saw the whaleback steamer now building by the American Steel Barge Co., intended for the World's Fair. She gives evidence of great speed. She will have 2,600 horse power and 1,700 tons displacement, or nearly 1¼ horse power to every ton of displacement. The Atlantic greyhounds, says Mr. Stratton, have only two to the same displacement, so that she will come close to them in respect of power.

MR. W. F. KING, chief astronomer of the Interior Department and Canadian commissioner to determine, in conjunction with Prof. Mendenhall, of the United States coast and geodetic survey, the international boundary between Alaska and Canada, will be detained at Ottawa for some time, as it is out of the question for him to proceed to Alaska at this period of the year. The international boundary in Passamaquoddy Bay may be determined first, this decision also being referred to the able scientists Messrs. Mendenhall and King.

EMINENT astronomers say that meteoric showers are of cometary origin, yet, the present display has no connection with the mysterious cometary visitor in the heavens. Professor Walter H. Smith, of Montreal, declares that the alleged collision of the earth with the comet, as reported by Prof. Snyder, at Philadelphia, was simply the advance guard of Biela meteors, which precipitate themselves in considerable numbers every seven years. The last display occurred here in 1885 and was due again last Saturday night. The meteors radiate from the constellation Andromeda.

PROPOSALS.

U. S. ENGINEER OFFICE, HICKOX Building, 185 Euclid avenue, Cleveland, Ohio, November 22nd, 1892. Sealed proposals for extending East and West Piers at Fairport Harbor, Ohio, will be received at this office until 2 p. m. of Thursday, December 22nd, 1892, and then publicly opened. Specifications, blank forms and all available information will be furnished on application to this office. JARED A. SMITH, Corps. of Engineers, U. S. A. 1-15

U. S. ENGINEER OFFICE, 34 WEST Congress st., Detroit, Mich., November 9, 1892. Sealed proposals for furnishing all labor, materials, and appliances, and excavating a ship channel 20 and 21 feet deep between Chicago, Duluth and Buffalo will be recived at this office until 2 p. m., standard time, on the following dates, and then publicly opened: For third section, Sailors' Encampment, on December 9, 1892; for seventh section, Grossepoint Flats, on December 10, 1892; for sixth section, St. Clair Flats, on December 12, 1892; for eighth section, mouth of Detroit River, on December 13, 1892; for second section, Little Mud Lake, on December 14, 1892; for fifth section, foot of Lake Huron, on December 15, 1892; for fourth section, Mud Lake Shoal, on December 16, 1892; for first section, Round Island shoals, on December 17, 1892. Specifications, blank forms, and all available information will be furnished on application to this office. O. M. POE, Colonel Corps of Engineers, Bvt. Brig.-General, U. S. A. 11-10—12-1.